**Name: Leslin Gillis**

**Subject: Science**

**Topic: Reducing Food Waste**

**Description:** We,Americans, have become increasingly depend on the many convenience products that are available to us. This is evident in the school lunch room. Most lunch items are packed in single-use plastic bags, aluminum foil, or wax paper. Some items are single-serving items that come in their own disposable package. Though these products are extremely convenient, they are environmental costly. Overflowing landfills and air pollution from Incinerators tell this tale even as many communities try to dump the nation's trash on other communities and nations. Education is the key to waste reduction. Students will consider food waste and create proposals to present to school officials about strategies that their school community can take to cut down on food waste.

**Grade Levels: 9 – 11**

**Time: 90 minutes**

|  |  |
| --- | --- |
| **Content Objective: SWBAT** promote the reduction of food waste    **Skills Objective – SWBAT** Analyze photographs on food consumption around the world and discuss global consumption patterns. examine how much food the U. S. wastes and the impacts that this wastefulness has the rest of the world  create proposals to cut back on food waste in the school community. create posters to accompany their proposals that can be used in a presentation to a panel of school officials.  ***Standards addressed:*** LS2.D: Social Interactions and Group Behavior  S-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity **Competencies: 3C** | |
| ***Instructional Strategies:***  Comparing/Summarizing/note taking  Reinforcement/responding to student | **5.** Think-pair-share/Cooperative learning  6. Systems analysis/ Generating inquiry  7. cues and questions |
| ***Motivation***: What should a waste-free lunch look like? | |
| ***Materials/resources:*** handouts with questions about the “What the World Eats” photo essay (one per student) -printed out copies of the photographs from the “What the World Eats” photo essay, copies of the article “One Country’s Table  Scraps, Another Country’s Meals”, computers with internet access  <http://humaneeducation.org/blog/2013/09/23/12-resources-teaching-food-waste/>  [**http://learning.blogs.nytimes.com/2008/05/19/clean-your-plate/?\_r=0**](http://learning.blogs.nytimes.com/2008/05/19/clean-your-plate/?_r=0)  [**http://www.time.com/time/photogallery/0,29307,1626519,00.html**](http://www.time.com/time/photogallery/0,29307,1626519,00.html)  [**http://www.nytimes.com/learning/teachers/featured\_articles/20080519monday.html**](http://www.nytimes.com/learning/teachers/featured_articles/20080519monday.html)  [**https://district79-public.rubiconatlas.org/Atlas/Browse/View/Map?BackLink=20798&CurriculumMapID=163&YearID=2015&SourceSiteID**](https://district79-public.rubiconatlas.org/Atlas/Browse/View/Map?BackLink=20798&CurriculumMapID=163&YearID=2015&SourceSiteID)**=** | |
| ***Aim:*** How can we reduce food waste to maintain a healthier environment? | ***Vocabulary:***  edible, composted, burgeoning, sustainable, infrastructure, microbial, frugal |
| ***Whole Class Activity***  ***Introduction students will***  Define waste based on motivation. Share definition with a partner then class  View 5 minutes of video clip on ‘The Story of Stuff” and share their responses.  Analyze and complete written responses to the pictures on “Hungry Planet: What the world eats  ***Development:* Students will**  read and discuss the article “One Country’s Table Scraps, Another Country’s Meal”  **(refer to link above)**  a. create a brainstorm list of strategies that could be implemented among the student body and/or by the school cafeteria to achieve the group’s objective.  b. choose 3 brainstormed ideas that would be both practical to put into action in school and do the most to cut back on food waste at their school.  c. create a proposal outlining three chosen action items.  Explain the current problem that the group focused on, and relate this problem to the overall American trend of food waste .  Describe the negative effects of food wastefulness ( in school and at home) on the local community and the global community.  Describe in detail three actions related to your focus area to decrease contribution to food wastefulness.  Explain the positive impact that these three actions will have on the school community as well as the local and global community. | ***Differentiation:***  **GROUP 1: Reducing Student Waste** – investigate how  much food and food packaging students waste while at school and propose strategies for cutting down this waste  **GROUP 2: Reducing Cafeteria Waste** – investigate how  much food and food packaging the school cafeteria wastes and propose strategies for cutting down this waste **GROUP 3: Re-Directing Scrap Waste** – investigate where  wasted food scraps go once they are disposed of and  propose ways to send scrap waste to more sustainable locations **GROUP 4: Re-Directing Food Waste** – investigate where  edible food goes when it is disposed of and propose ways to  send edible food to places that can use it **GROUP 5: Educating Families** – propose simple strategies  for ways that the school can provide tips to students and their  families about how to cut down on food waste at home Each group must complete the following three tasks (provided  in a handout):  Students will use websites for additional information  **Share-aloud:** Students will present responses to the class  to prepare them for presenting to school officials.  ***Conclusion:*** class will critique presentations for improvements  ***Homework:***  View the ending of "The Story of stuff".  Each group will create a poster -2 visuals- that will act as  visual aids for the proposal presentations |
| ***Monitoring and Assessment:* Observations/review of work/presentations** | ***Rubric***  ***maximum Average minimum***  ***Class Discussion 10 6 2***  ***Written Responses 10 6 2***  ***Presentations 10 6 2*** |

**Hungry Planet: What the World Eats**

Norway: The Ottersland Dahl Family of Gjettum. 

Food expenditure for one week: 2211.97 Norwegian Kroner; $379.41 USD. Favorite foods: fresh baked bread with butter and sugar, pancakes, tomato soup with macaroni and cold milk, yoghurt

Norway: The Ottersland Dahl Family of Gjettum. Food expenditure for one week: 2211.97 Norwegian Kroner; $379.41 USD. Favorite foods: fresh baked bread with butter and sugar, pancakes, tomato soup with macaroni and cold milk, yoghurt

Germany: The Sturm Family of Hamburg. 

Food Expenditure for One Week: € 253.29 ($325.81 USD). Favorite foods: salads, shrimp, buttered vegetables, sweet rice with cinnamon and sugar, pasta. 

Germany: The Sturm Family of Hamburg. Food Expenditure for One Week: € 253.29 ($325.81 USD). Favorite foods: salads, shrimp, buttered vegetables, sweet rice with cinnamon and sugar, pasta.

Japan: The Ukita family of Kodaira City.


Food expenditure for one week: 37,699 Yen or $317.25.

Favorite foods: sashimi, fruit, cake, potato chips. 

Japan: The Ukita family of Kodaira City. Food expenditure for one week: 37,699 Yen or $317.25. Favorite foods: sashimi, fruit, cake, potato chips.

Italy: The Manzo family of Sicily.

Food expenditure for one week: 214.36 Euros or $260.11.
Favorite foods: fish, pasta with ragu, hot dogs, frozen fish sticks.

Italy: The Manzo family of Sicily. Food expenditure for one week: 214.36 Euros or $260.11. Favorite foods: fish, pasta with ragu, hot dogs, frozen fish sticks

Great Britain: The Bainton family of Cllingbourne Ducis.

Food expenditure for one week: 155.54 British Pounds or $253.15.
Favorite foods: avocado, mayonnaise sandwich, prawn cocktail, chocolate fudge cake with cream.


Great Britain: The Bainton family of Cllingbourne Ducis. Food expenditure for one week: 155.54 British Pounds or $253.15. Favorite foods: avocado, mayonnaise sandwich, prawn cocktail, chocolate fudge cake with cream.

Ecuador: The Ayme family of Tingo.

Food expenditure for one week: $31.55.
Family recipe: Potato soup with cabbage.

Ecuador: The Ayme family of Tingo. Food expenditure for one week: $31.55. Family recipe: Potato soup with cabbage.

Chad: The Aboubakar family of Breidjing Camp.

Food expenditure for one week: 685 CFA Francs or $1.23.
Favorite foods: soup with fresh sheep meat.

Chad: The Aboubakar family of Breidjing Camp. Food expenditure for one week: 685 CFA Francs or $1.23. Favorite foods: soup with fresh sheep meat.

United States: The Revis family of North Carolina.

Food expenditure for one week: $341.98.
Favorite foods: spaghetti, potatoes, sesame chicken.


United States: The Revis family of North Carolina. Food expenditure for one week: $341.98. Favorite foods: spaghetti, potatoes, sesame chicken.

**Analyze the pictures “What the World Eats” then answer the questions below**

|  |  |
| --- | --- |
|  |  |

Which family spends the most on food every week?

Which family consumes the most food per week?

Which family’s weekly food consumption uses the most packaging? Which family’s diet looks the healthiest? Why?

Which family’s diet looks the least healthy? Why?

Which family’s diet looks the most wasteful? Why?”

Were you surprised by anything that you saw in the pictures? Why or why not?

How does your own family’s diet compare to those depicted in these pictures?

How does your own family’s diet compare to those depicted in these pictures consumed?

Which questions did you disagree with and why?

What comparisons did you make with American diet and diets from around the world?

How much of the food from these pictures do you think is wasted compared to how much is consumed?

Do you think that the amount of wasted food is different in different places? Why?

2. **Read and discuss the article “One Country’s Table Scraps, Another Country’s Meal”**

a. How much available food is being wasted in the United States? Does this surprise you? Why or why not?

b. Why is this food being wasted? Is this waste necessary? Why or why not?

c. What do you think happens to the ready-to-eat food at the supermarket at the end of the day? Do you think that you will look at it differently now?

d. How did you compare how much yard waste is recycled and how much food waste is recycled

Do you think it is harder to compost food waste than yard waste? Why or why not?

e. How does food waste contribute to environmental damage?

f. What problems are currently facing American food banks?

g. How does food waste in the United States compare to food waste in England and Sweden?

h. How is food being wasted in some parts of Africa? What would need to change to stop this waste?

i. Why have Americans started throwing away more food?

j. What good would be accomplished by recovering 5% of the food that is wasted in the U.S.?

k. How are organizations addressing food waste? Will these efforts working in your community? Why or why not?  
l.What can you do to cut back on food waste?